

Amendments to the Claims

The following listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims

1. (Currently amended) An imaging system, comprising:
an imaging optics for forming an image of an object at an ~~unknown~~ object distance
~~that may vary~~ within an object distance range, said imaging optics having a focal length that varies with wavelength of light that illuminates the object;
an image receiving unit for receiving an image of said object formed by said imaging optics;
a light source for sequentially illuminating said object with light of different ones of a plurality of wavelengths for providing a plurality of images of said object received by said image receiving unit; and
a processor for selecting a desired image among said plurality of received images.
2. (Original) The imaging system according to Claim 1, wherein said imaging optics has a focal length that varies inversely with a wavelength of light that illuminates the object.
3. (Original) The imaging system according to Claim 2, wherein said imaging optics comprises a combined refractive/diffractive lens.
4. (Original) The imaging system according to Claim 1, wherein said image receiving unit comprises an array of photosensors.
5. (Original) The imaging system according to Claim 4, wherein said array of photosensors comprises a CMOS detector array.
6. (Original) The imaging system according to Claim 1, wherein said light source comprises a plurality of separate light sources, each of said plurality of separate light sources illuminating said object with light of a different wavelength.

7. (Original) The imaging system according to Claim 6, wherein said plurality of separate light sources comprises a plurality of light emitting diodes.

8. (Original) The imaging system according to Claim 6, wherein said plurality of separate light sources comprises from about three to about five light sources.

9. (Canceled)

10. (Previously presented) The imaging system according to Claim 1, wherein said desired image comprises a best-focused image among said plurality of received images.

11. (Previously presented) The imaging system according to Claim 2, wherein the object distance range comprises from about 5 inches to about 20 inches, and wherein said plurality of wavelengths comprise a plurality of wavelengths between about 450nm and about 980nm.

12. (Original) The imaging system according to Claim 11, wherein said object comprises an iris of an eye.

13. (Original) The imaging system according to Claim 11, wherein said object comprises a fingerprint.

14. (Original) The imaging system according to Claim 1, wherein said imaging system comprises a digital still camera.

15. (Currently amended) A method for providing a desired image of an object, comprising:

sequentially illuminating an object at an unknown object distance that may vary within an object distance range with light of different ones of a plurality of wavelengths forming a plurality of images of said object with an imaging system having a focal length that varies with a wavelength of the light that illuminates the object; and

selecting a desired image among said plurality of formed images.

16. (Original) The method according to Claim 15, wherein said selecting comprises selecting a best-focused image among said plurality of formed images.

17. (Currently amended) The method according to Claim 15, wherein sequentially illuminating an object at an unknown object distance that may vary within an object distance range with light of different ones of a plurality of wavelengths comprises sequentially illuminating said object with light of a plurality of separate light sources, each of said plurality of separate light sources illuminating said object with light of a different wavelength.

18. (Previously presented) The method according to Claim 15, wherein forming a plurality of images of said object with an imaging system having a focal length that varies with a wavelength of the light that illuminates the object comprises forming a plurality of images of said object with an imaging system having a focal length that varies inversely with a wavelength of the light that illuminates the object.

19. (Previously presented) The method according to Claim 18, wherein the object distance range comprises from about 5 inches to about 20 inches, and wherein said plurality of wavelengths comprise a plurality of wavelengths between about 450nm and about 980nm.

20. (Previously presented) The method according to Claim 15, wherein forming a plurality of images of said object with an imaging system having a focal length that varies with a wavelength of the light that illuminates the object comprises forming said plurality of images on a photosensor array.

21. (Currently amended) The method according to Claim 15, wherein sequentially illuminating an object at an unknown object distance that may vary within an object distance range with light of different ones of a plurality of wavelengths comprises sequentially illuminating said object at a rate of 60 images per second.

22. (Original) The method according to Claim 15, wherein said imaging system comprises a digital still camera.